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Fiscal Impoverishment in Rich Democracies

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FISCAL IMPOVERISHMENT IN RICH DEMOCRACIES¹

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ABSTRACT

This article introduces *fiscal impoverishment* as a novel framework for comparative poverty research. We invert standard analyses of welfare state policy and household poverty by focusing not on poverty alleviation but poverty creation and exacerbation. Using harmonized household survey data, we show how the income and payroll taxes most rich countries rely on to finance the public sector serve to push households (further) into poverty. We estimate that across rich democracies on average about 1 in 4 households in poverty are made poorer on net after taxes and transfers; with fiscal impoverishment levels ranging from less than 10% in some countries to more than 70% in others, revealing extreme cross-national variation in how the pocketbooks of poor households are impacted by national tax and transfer policy. We show that fiscal impoverishment is relatively more common in continental and southern European welfare states and relatively less common in Anglo-liberal and Nordic countries but for different reasons. Counterfactual simulations show that reducing income tax liability would increase disposable income and substantially reduce household poverty in many welfare states. We consider the implications of fiscal impoverishment for assessing welfare state performance and for comparative poverty research.

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INTRODUCTION

Welfare state scholars have long emphasized the primacy of policy in explaining cross-national variation in poverty-related outcomes and, more recently, of poverty itself (Alper, Huber, and Stephens 2020; Brady 2009; Gornick and Smeeding 2018; Moller et al. 2003). Recent work by Brady, Finnigan and Hübgen (2017) convincingly demonstrates that cross-national differences in household poverty rates are due not to differences in the prevalence of poverty-associated risk factors—such as low education, single parenthood, young headship, or unemployment—but rather variation in the penalties attached to those risks. When analyzed in comparative perspective, it is undeniable that most rich democracies have the fiscal capacity to eliminate poverty. This is evidenced in study after study detailing how enhanced income transfers—to pensioners, the unemployed, the disabled, to households with children—would reduce poverty and mitigate its negative effects on individual, household and societal well-being (see, e.g., Caminada et al. 2020; Worts, Sacker, and McDonough 2010). In the welfare states literature, persistent poverty in rich democracies results from a failure to take policy action.

Yet poverty is not only the consequence of policy inaction; in every rich democracy, some poor families are made poorer still as a net result of the tax and transfer system, that is, as a direct result of government policy. Household disposable income is the net of market income, transfer income and income taxation (including payroll taxes). Just as transfer income can lift households out of poverty, income taxation can push people (further) into it. Yet despite substantial research detailing the role of government transfers in reducing rates of household poverty and augmenting the incomes of the poor (see Caminada et al. 2020; Gornick and Smeeding 2018), we know remarkably little about how income taxes increase household poverty rates and reduce the disposable income of poor households.

This article introduces and empirically motivates *fiscal impoverishment* as a construct for use in comparative welfare state research. Building on prior work detailing the effect of taxation on household poverty in developing countries (Higgins and Lustig 2016) and subnational contexts (Jurow Kleiman 2021; Newman and O'Brien 2011) our aim is to reveal how the income taxes most rich countries rely on to finance the public sector in many instances also serve to create and

exacerbate household income poverty. Using harmonized household survey data from the Luxembourg Income Study (LIS), we examine two primary research questions: First, across rich democracies, what percentage of households in poverty saw their income reduced as a net result of national income tax and transfer policy? And second, on average by how much is their household income reduced? Our aim is to reveal both the ‘level’ and ‘intensity’ of fiscal impoverishment across welfare states.

In each of the 24 countries in our sample, we find a substantial number of poor households paid more in income taxes to the government than they received in the form of income transfers. On average across countries we find about 1 in 4 poor households saw their household income reduced as a net result of national tax and transfer policy. Yet we also find tremendous variation across welfare states, with fiscal impoverishment levels ranging from less than 10% of all poor households in Finland to more than 70% in Italy. For these fiscally impoverished households the net loss to income is often substantial, with average intensity ranging from around 5% of the national poverty line (in the U.S. about \$1,000) to almost 15% in Greece and Switzerland, underscoring stark cross-national variation in how income tax and transfer systems impact the pocketbooks of poor households.

Overall, we find fiscal impoverishment is relatively less common in the English-speaking Anglo-liberal countries, where poor families tend to have low or no income tax liabilities, as well as in the Nordic countries, where relatively high income tax burdens are offset by relatively generous income transfers. At the same time, we find fiscal impoverishment is more common in southern Europe, due to relatively low transfer payments, and in continental countries of Germany and Switzerland, where income tax burdens on poor households typically exceed income transfer levels. We also find substantial variation as a function of household composition: in the southern European countries of Italy, Greece and Spain it tends to be households with children who are fiscally impoverished whereas in the Nordic countries it is households without.

We then explore the policy determinants of fiscal impoverishment. We first construct a measure of the aggregate effect of each national tax and transfer system on the likelihood of fiscal impoverishment relative to the other countries in the sample. We then examine the policy drivers

of cross-national variation in fiscal impoverishment using two summary metrics: the *median tax rate* and the *median transfer income share* for households with below median income, those at threat of fiscal impoverishment. Notably, we find fiscal impoverishment is jointly determined by tax and transfer policy, with transfer share strongly correlated with impoverishment level and tax rates with impoverishment intensity across countries.

To illustrate the added value of the fiscal impoverishment perspective, we go on to estimate effective income tax rates and income transfer shares by income level and household type for each country. We then use these estimates to simulate a series of counterfactual scenarios. Consistent with prior work (Mahler and Jesuit 2006), we find household poverty rates in most countries would be lower in the presence of Nordic-average income transfers and higher in the presence of Anglo-liberal average income transfers. Yet we also show household poverty would typically be lower—and the disposable income of impoverished families would typically be higher—if countries adopted Anglo-liberal income tax policy whereas adopting Nordic income tax policy would in most instances reduce disposable income and push more families into poverty. Finally, we show that eliminating income taxes on poor households would reduce national household poverty rates by up to 10 percentage points, with the largest absolute declines in poverty occurring in Switzerland, Denmark and Greece and the largest relative declines occurring in Germany, Greece, Norway and Switzerland.

Our study makes several contributions to the literature on poverty and welfare states. First, we invert the standard approach to analyzing welfare state policy and household poverty by focusing not on poverty alleviation but poverty creation. In quantifying the fraction of households in each country who are made poor as a net result of taxes and transfers we provide a novel metric for scrutinizing how policy differences shape cross-national variation in household poverty rates. Second, we move beyond the literature's preoccupation with who's poor and who's not to detail the number of impoverished households in each country who saw their incomes reduced as a net result of national income tax and transfer policy; measuring how policies shape the disposable income of the poor, we argue, is just as important as counting how many families fall above and below the poverty line.

Beyond novel metrics, fiscal impoverishment offers a new theoretical lens for evaluating welfare state performance in the twenty-first century. As we argue below, whether a low-income family finds their household income is increased or decreased as a net result of national income tax and transfer policy is a threshold that is both materially and politically salient. Measuring fiscal impoverishment in a comparative perspective may therefore yield new insights into the policy drivers of cross-national variation in preferences for redistribution and attitudes towards the welfare state. Ultimately, our framework reveals that many welfare states simply take more income from poor families through direct income taxation than they provide in income transfers, underscoring the anti-poverty potential of adopting either more progressive income tax schemas that exempt the poor from income taxation or enhanced transfers to offset tax liabilities.

In the following section we situate fiscal impoverishment within the broader literature on poverty and welfare states. We then draw on theory from across the social sciences to motivate the material and political salience of fiscal impoverishment. We go on to describe the policy determinants of fiscal impoverishment and summary metrics of national tax and transfer systems we use to explore cross-national variation. We then turn to describe our data and analytic approach and empirical findings and conclude by discussing implications for policy and welfare state research.

FISCAL IMPOVERISHMENT AND WELFARE STATES

Welfare state scholarship has long examined the policy and institutional determinants of cross-national variation in poverty and inequality. Starting with Esping-Andersen's "Three Worlds of Welfare Capitalism" (1990), a vast literature emerged classifying welfare state regimes based on the level of public sector investment in education, healthcare and retirement security and the generosity of programs targeted to vulnerable populations such as the disabled or unemployed. Taxation was discussed incidentally, typically in reference to the scale of dollars needed to fund social investments not how they impact on household balance sheets (Kato 2003; Prasad and Deng 2010; Steinmo 1993; Wilensky 1976, 2002).

In this early comparative literature, the U.S. stood out for having markedly lower levels of social spending. This was shown to be illusory, as new work detailed how substantial welfare state

spending in the U.S. is ‘hidden’ (Howard 1999) or ‘submerged’ (Mettler 2011) in the form of tax expenditures, policies that reduce tax burdens as an incentive and/or subsidy for individuals to provide for their own higher education or retirement security or health insurance coverage. Tax policy came to be understood as a key site of welfare state policymaking. Incorporating tax expenditures into estimates of total welfare state spending revealed the U.S. is not a laggard relative to other countries in terms of total dollars spent (see, e.g., Garfinkel, Rainwater, and Smeeding 2010), although those moneys are spent less efficiently and with less redistributive effect. To the extent that tax expenditures impacted household bottom lines, studies found benefits largely accrued to middle- and upper-income households (Avram 2018).

Parallel advancements in the harmonization of cross-national household survey data made possible through the Luxembourg Income Study (LIS) facilitated a new type of comparative welfare state research. This ever-evolving literature details the effects of ‘tax and transfer’ programs on aggregate inequality and household poverty across countries and demographic subgroups. A key advance is the focus on household disposable income, also known as ‘post-tax and transfer’ income. The difference in poverty and inequality levels calculated using pre- versus post-fisc income has become a key metric for assessing the impact of tax and transfer policy (Caminada et al. 2020; Gornick and Smeeding 2018; Kenworthy 1999; Mahler and Jesuit 2006; OECD 2008). And has facilitated a bevy of comparative research on the social, structural and policy determinants of cross-national variation in the intensity and nature of redistribution (Alper et al. 2020; Brady et al. 2017; Diris, Vandenbroucke, and Verbist 2017; McCabe and Berman 2016; Moller et al. 2003; Smeeding 2006), including a productive line of inquiry examining the relative efficacy of ‘targeted’ versus ‘universal’ policies in reducing poverty and mitigating market income inequality (Brady and Bostic 2015; Brady and Burroway 2012; Korpi and Palme 1998).

This focus on the ‘net effect’ of taxes and transfers seeks to better approximate household disposable income and, with it, a household’s relative economic position and level of precarity or privilege.¹ Yet despite perennial studies detailing the extent to which national transfer programs (do or do not) lift households out of poverty (e.g., OECD 2008), there has been no systematic evaluation of how national tax and transfer systems in wealthy democracies push households (further) into poverty.

There is work examining how taxation impacts household poverty in low-income, developing countries (Cabrera, Lustig, and Morán 2015; Higgins and Lustig 2016; Lustig 2017). Examining the role of direct and indirect taxes, Lustig, for example, finds that taxation increases the extreme poverty headcount in more than a third of the low-income countries studied (Lustig 2017). She further finds that in most developing countries more than thirty percent of poor households are fiscally impoverished, i.e., on net see their incomes reduced after taxes and transfers. Notably, the poor are made poorer in these countries even though the tax and transfer systems are overall progressive and serve to reduce inequality.

There is also work examining fiscal impoverishment by subnational governments, particularly in the United States. This includes work by Newman & O'Brien (2011) who estimated total state income and sales tax liability for a representative household comprising three persons with income equal to the Federal poverty line. They find substantial heterogeneity in how state tax systems impact poor households: in some states, already poor families are taxed substantially further into poverty due primarily to high sales taxes (including on essentials such as food) whereas in other states poor families are lifted above the poverty line thanks to state refundable tax credits. More recent work by Jurow Kleiman (2021) extends this analysis to simulate the net effect of income and payroll taxes at the federal level as well as sales, income, and property taxes on the local level on the financial well-being of different household types above and below the poverty line. These analyses reveal how tax policy impacts the financial well-being of poor households with consequences for social outcomes (Newman and O'Brien 2011); yet within-country variation in taxing the poor is dwarfed in scope by cross-national variation.

The aim of this article is to extend this framework to examine how national income tax and transfer systems create and exacerbate household poverty. We focus on income taxes and transfers because these policies directly shape disposable household income, which, we argue below, is materially and politically salient to poor households. Moreover, income taxes can be readily compared across countries and household types, whereas, e.g., the design of consumption taxes varies substantially both within and between countries and ultimate incidence is determined by household behavior.²

To be sure, income taxes and transfers are only one aspect of welfare state policy. The taxes households pay are used to finance essential public goods and services from healthcare and education to child and dependent care to pensions, unemployment assistance and public infrastructure. Poor households would likely fare better in a regime that pairs a modest income tax liability with generous public goods and social investments than in a regime with no income tax liability and an anemic public sector. Just as some argue the poor are better off in countries that have high, often regressive, consumption taxes but high levels of social spending; indeed reliance on regressive, indirect taxation is often viewed as essential to financing a robust welfare state (Prasad and Deng 2010).

Yet every rich country has the fiscal capacity to ensure low-income households do not find themselves to be net losers after income tax and transfer policy. The sheer wealth of advanced welfare states permits us to separate the question of how best to finance a generous public sector—the right mix of direct and indirect taxes, the appropriate distribution of tax incidence—from how best to improve the material condition of poor households.

In the section below we argue that fiscal impoverishment is a material and politically salient threshold for households; even at the same level of disposable income, it matters if households in one context are poor as a result of inadequate market and transfer income whereas households in another context are pushed into poverty as a result of income taxes. But even if it did not matter—even in a world where individuals were entirely blind to the mix of market income, transfer income and taxation that determined their disposable income—it remains instructive for policymakers to know how many poor households would not be so in the absence of income taxation. If the goal of social policy is to reduce poverty, doing so may require changes to tax policy and the distribution of tax burden.

MATERIAL AND POLITICAL SALIENCE OF FISCAL IMPOVERISHMENT

It is conceptually inaccurate to attribute the difference between pre-tax and post-tax poverty and inequality levels to the “effect” of taxation (Martin and Prasad 2014). Taxation is a powerful policy tool with myriad direct and indirect—potential and realized—effects on the behavior of individuals

and firms and governments that in turn shapes the (pre-) distribution of market income and the financing, availability and generosity of government transfers and social programs. This distinction is important for our theoretical and empirical understanding of the workings of the welfare state. Yet it is not how individual citizens understand or experience taxation.

We argue that fiscal impoverishment is materially salient for households. And, by extension, politically salient for how they evaluate public policy and the welfare state (Gamage and Shanske 2011). In short, we argue it matters to economic behavior and political preferences whether and to what extent a household is impoverished as a net result of the tax and transfer system.

Here we take inspiration from legal scholars Murphy and Nagel (2002) who argue that lay assessment of what's fair and what's not in the realm of taxation is distorted by a form of 'rights-based libertarianism' that 'infects much everyday thinking about tax policy' (Murphy and Nagel 2002:31). A key heuristic people use in calculating their own tax burden is to take 'pre-tax' income as the baseline and compare that to their net or 'post-tax' income. What one's income *would be* in the absence of income taxation becomes the benchmark for evaluating tax policy. This reasoning proceeds by positing a world without taxation and consequently without government; a world that cannot, in fact, exist as government is essential to the enforcement of property rights and the functioning of the free market required to earn income in the first instance (Gamage and Shanske 2011; Graetz 1995; Holmes and Sunstein 2000). Nevertheless, individuals are acutely aware of their pre-tax income and assign to it a particular moral value; these are dollars they are "fundamentally entitled" to, motivating the political belief that "what happens to that money is morally speaking *entirely* a matter of our say-so" (Murphy and Nagel 2002:34–35; emphasis in original). The ubiquity of this framework for understanding and evaluating taxation is evidenced in the political messaging of tax cuts as an effort to "give us back 'our money'" (2002:35).

The logical prioritizing of 'pre-tax' income is reinforced in everyday life. Job advertisements list gross salary or wage levels and this is the number individuals respond with when asked to report their income. But wages and salaries aren't the only dollars households 'count' in their pre-tax income; households are also acutely aware of income transfer levels, e.g., the amount of monthly child allowance benefit payments. This, too, is factored into household calculations of "pre-tax"

income. Even transfers delivered via the tax code, such as the refundable Earned Income Tax Credit in the U.S., come to be understood and relied upon as a key component of household income even if the lump sum annual transfer leads households to imbue it with special meaning and designate for special purposes (Sykes et al. 2015).

For households, market and transfer income are viewed as dollars ‘coming in’ that establish a pre-tax baseline whereas income taxes are viewed as dollars ‘going out’ that establishes the disposable income available to make ends meet. A basic insight of behavioral economics is that people are attuned to ‘losses’ and ‘gains’ and, moreover, that the pain felt from loss outweighs the benefit felt from an equivalent gain (Kahneman and Tversky 1979). Here it does not matter whether a given policy is technically a ‘tax’ or a ‘transfer’ but instead whether the policy ‘adds to’ or ‘takes from’ income—refundable credits are technically a tax policy but are viewed as a transfer if and when it ‘adds to’ their market income.

Of course, income taxes are not the only taxes people pay. Yet consumption taxes do not factor into household heuristics used to calculate disposable income. Nor do other forms of indirect taxation, e.g., corporate net profits tax paid via higher prices or property taxes paid via higher rent or myriad user fees. Indirect taxes are ‘hidden taxes’ that affect the cost of goods and services which households purchase using their disposable income³; disposable income is the binding budget constraint from which other taxes must be paid. For households, then, the contribution of government tax and transfer policy to disposable income is materially and politically salient.

POLICY DETERMINANTS OF FISCAL IMPOVERISHMENT

In their seminal work on the “paradox of redistribution” Korpi and Palme (1998) demonstrated that regimes where income transfers are targeted primarily to low-income households reduced poverty less than regimes with more universal transfer schemas. In the nearly twenty-five years since publication, their distinction between targeted vs. universal transfer programs has proven analytically useful for evaluating welfare state performance (Brady and Bostic 2015; Jacques and Noël 2018). More recently, this framework has been extended to consider how transfer programs can be targeted vs. universal with respect to household type, e.g., with and without children. For

example, Brady and Burroway (2012) find regimes that target transfer benefits to single-parent households reduce child poverty less than regimes with transfer programs that are more universal, or agnostic to household composition.

Like transfers, income tax policies can also be more or less targeted to different income levels and different household types. Some tax policies like the personal exemption are universal with respect to income and household type. Other policies like the home mortgage interest deduction vary with respect to income—i.e., financial value is greater at higher income levels—but are universal across household types. Still other policies, such as the EITC or CTC, vary with respect to both income levels and household types. Therefore, capturing the full impact of tax and transfer systems on household poverty requires attending to the impact of both taxation and transfers on household finances.

Yet the distinction between ‘tax’ and ‘transfer’ policy is not always clear. A program that provides direct cash transfers in one country may take the form of a refundable tax credit in another; for example, child benefits may be implemented via direct cash transfers or via tax credits. We therefore start by constructing a summary measure of national tax and transfer systems that is agnostic to policy detail and instead captures the overall effect of each country’s tax and transfer system on the threat of household poverty. This measure is constructed relative to other countries in the sample and can be used to evaluate which welfare state regimes generate more or less fiscal impoverishment.

We can then use this measure to explore whether cross-national variation in fiscal impoverishment is primarily the result of differences in transfer levels, tax burdens, or a combination of the two. Here we build on prior work (e.g., Brady and Bostic 2015; Brady and Burroway 2012), to develop two summary policy metrics of national tax and transfer systems.

Our measure of tax burden is simply the *median tax rate* on market income across households with below median income, those at threat of fiscal impoverishment. The median tax rate captures the combined effects of payroll taxes, the income tax rate schedule, and any personal exemptions. Restricting to households with below median income ensures our measure is not confounded by

cross-national differences in the tax treatment of higher income households via progressive marginal tax rates.

Progressivity is, to be sure, an important measure for evaluating the fairness of tax policies and their role in shaping (post-fisc) inequality; and is the substantive focus of most welfare state research on taxation (see, e.g., Guillaud, Olckers, and Zemmour 2020). A well-established finding in the social policy research literature is that countries with high public social expenditures pay for this with high tax rates up and down the income distribution rather than by soaking the rich and not taxing the poor (Prasad and Deng 2010). Therefore, less progressive tax systems are associated with more generous welfare benefits (Kato 2003). However, this literature does not address if poor households pay more in taxes than what they receive in transfers. Fiscal impoverishment is distinct from measures of tax progressivity: a system that saddles poor households with a high tax burden can still be progressive if it levies still higher taxes on the rich. Both regressive and progressive tax systems can have high (or low) levels of fiscal impoverishment; it depends on how taxes and transfer impact the poor, irrespective of how it impacts the rich.

Our measure of transfer levels is the *median transfer income share* expressed as a fraction of household market income, again among households with below median income. Here we build on the measure of transfer share developed by Brady and Bostic (2015), but importantly deviate by only considering transfers made to households in the bottom half of the income distribution. Measuring transfer income share across the distribution is essential for studies of inequality and the aggregate effect of redistributive policy; yet considering transfers across the income distribution may obscure important cross-national variation in transfer share to low-income families, those at threat of fiscal impoverishment.

As detailed below, we exclude households with unemployment or pension income when constructing these summary metrics so that our measures are not confounded by contemporaneous variation in unemployment or pensioner rates. However, we only exclude these households when constructing these policy metrics; all households are included in estimates of fiscal impoverishment levels and intensity below, regardless of pension or unemployment status.

We use these measures to examine the policy drivers of cross-national variation in fiscal impoverishment. We hypothesize that the level of taxation and the share of transfer income will

be jointly implicated in each set of analyses. In other words, we think variation in both tax burden and transfer level will be important to understanding cross-national variation in levels of fiscal impoverishment.

DATA AND ANALYTIC APPROACH

To examine fiscal impoverishment in comparative perspective, we draw on household microdata from the Luxembourg Income Study (LIS). LIS is a collection of representative household surveys that is harmonized to facilitate comparisons across countries. Following previous research, we select from the LIS all rich democracies (Brady and Burroway 2012) with complete information on taxes, transfers and household demographics yielding information on 24 OECD countries.⁴ For each country we use the most recent year of data available. All monetary information is top and bottom coded and equivalised to household size using the square root of household members as well as ppp-adjusted to 2017 USD.⁵ We restrict our sample to all households without members older than 65 in order to avoid confounding by the share of pensioners and the generosity of pension schemes in a given country or a given point in time.⁶

1. Measuring Fiscal Impoverishment: Levels and Intensity

We aim to measure two aspects of fiscal impoverishment: level and intensity. Fiscal impoverishment level captures the share of the population with higher market than disposable income but disposable income below the poverty line—in other words, the percentage of individuals who are made poor or poorer as a result of income taxation. To calculate this, we construct country-specific poverty thresholds set equal to 60 percent of median disposable income. We then assign an indicator of fiscal impoverishment for all households that have market income above the poverty line but disposable, i.e., after-tax and transfer, income below the poverty line. We additionally assign this indicator for all households that have market income below the poverty line and an even lower disposable income.

Formally, fiscal impoverishment indicator equals one whenever $y_i^0 < y_i^1$ and $y_i^0 < z$, where y_i^1 indicates income of household i before taxes and transfers, y_i^0 represents disposable income after taxes and transfers and z is the poverty line (Higgins and Lustig 2016).

We also measure the intensity of fiscal impoverishment, i.e., the degree to which poor households are made worse off as a net result of the tax and transfer system. We first estimate the average income reduction among all impoverished households. For households that are in poverty both before and after taxes and transfers, this equals the absolute difference between market income and disposable income ($y_i^1 - y_i^0$). For households that are non-poor before taxes and transfers but poor afterwards, this equals the absolute difference between the poverty line and disposable income ($z - y_i^0$). To facilitate comparisons across countries, we translate these dollars into a fraction of the national poverty line. Fiscal impoverishment intensity therefore captures the degree to which the tax and transfer system pushes households below the poverty line (Higgins and Lustig 2016).

2. *Examining Policy Determinants*

In order to examine the policy determinants of cross-national variation in fiscal impoverishment, we first need to construct a summary measure of the relative extent to which a country's tax and transfer system yields fiscal impoverishment. We do so by estimating a linear model by OLS where we predict household fiscal impoverishment as a function of household sociodemographic and economic characteristics and country-level fixed effects.

Our baseline equation is as follows:

$$fiscal\ impoverishment_{ij} = \beta_0 + \beta_1 household\ characteristics_{ij} + u_j FE + \varepsilon_{ij}$$

where *household characteristics*_{ij} refer to attributes of household i in country j and $u_j FE$ indicates the fixed effect for country j . Fiscal impoverishment refers to either our level or intensity measure. At the household level, we include measures of household composition (couple, small family (up to two children), large family (3+ children), single parent, single, or other), an indicator

if anyone in the household is unemployed, an indicator if there are multiple earners in the household, and gross household income (logged). Standard errors are clustered at the country level.⁷

We then recover the estimated coefficient on each country fixed effect relative to the grand mean of all countries; net of household covariates, this coefficient provides a useful summary metric of the relative extent to which that country's tax and transfer system increases fiscal impoverishment levels. This captures the overall effect of national tax and transfer systems on fiscal impoverishment. We then use our measures of the median tax rate and median transfer share on households with below median income to explore the relative role of tax vs. transfer policy in explaining cross-national variation in fiscal impoverishment.

3. Counterfactual simulations

We then simulate counterfactual scenarios to assess whether tax and transfer systems from Anglo-liberal or Nordic welfare states yield less poverty and fiscal impoverishment. To investigate the effectiveness of taxes and transfers we first calculate average effective tax rates and transfer shares for each household type and every income bracket expressed as a fraction of the national poverty line in each country.⁸ Here, we restrict our sample to households without unemployment or pension income to arrive at a synthetical measure of taxes and transfers by household type across the income distribution. Thus, this measure will not be confounded by the share of retirees or unemployment in a given country. We then calculate each household's tax burden (and transfer benefit) by multiplying the average effective tax rate (and transfer share) of the corresponding household type in the relevant income bracket with the household's market income. After deducting and adding the resulting, simulated taxes and transfers we estimate poverty at 60% of equivalised median disposable household income.

We then investigate how countries would fare if they had taxes and transfers similar to Anglo-liberal or Nordic welfare states. To this end, we replace average tax rates and transfer shares in every income bracket and for each household type with the simulated average among the Anglo-liberal countries (Australia, Canada, Ireland, the United Kingdom, and the United States) and the

Nordic countries (Denmark, Finland, Norway, Sweden). Finally, we estimate the resulting counterfactual poverty rates and impoverishment levels for every country.

All statistical code will be made publicly available for replication—to facilitate peer review we currently provide the statistical code in a supplementary appendix.

RESULTS

We present our findings in three sections. Section 1 details cross-national variation in fiscal impoverishment. We first examine the *level* of fiscal impoverishment in each country, i.e., the percentage of households with market income above the poverty line who are made poor as a result of income taxation or households with market income below the poverty line who are made poorer as a result of income taxation. We go on to show how rates of fiscal impoverishment vary for different household types. We then examine cross-national variation in the *intensity* of fiscal impoverishment, that is, how much impoverished households on net pay more in income taxation than what they receive in transfers as a percentage of the poverty line. In Section 2 we estimate a linear regression model by OLS with country-specific fixed effects to create a summary measure of the extent to which a country's tax and transfer system increases the risk of fiscal impoverishment relative to all countries in the sample. We then use this summary metric to explore how two specific features of national fiscal policy—the median tax rate and the median transfer income share—help explain cross-national variation in fiscal impoverishment. Finally, in Section 3 we conduct counterfactual simulations to investigate how poor households in each country would fare in the presence of Anglo-liberal or Nordic average income transfers and income taxes and estimate the effect of eliminating income taxes on the poor on rates of household poverty.

Section 1: Levels and Intensity of Fiscal Impoverishment in Rich Democracies

A. Overall Levels of Fiscal Impoverishment

[FIGURE 1 ABOUT HERE]

Figure 1: Poverty and levels of fiscal impoverishment

Figure 1 decomposes the effect of tax and transfer systems on household poverty in each country.⁹ The light green bars on the negative scale depict the percentage of households in each country with market incomes below but disposable income above the poverty line—these households are lifted out of poverty as a net result of taxes and transfers. In most countries the poverty rate would be around five percent higher in the absence of direct household transfers; in the Anglo-liberal countries of UK and Ireland that number balloons to more than ten percent, underscoring the critical role government transfers play in reducing poverty in those countries.

The positive scale depicts the percentage of households with disposable, i.e., post-tax and transfer or ‘post-fisc’, income below the national poverty line. The height of the bars corresponds to the ‘official’ poverty rate in each country, capturing the fraction of households with equivalized disposable incomes less than 60% of the national median income. Consistent with previous research (e.g., Gornick and Nell 2018), poverty rates are generally lower in northern European countries and higher in southern European and English-speaking countries.

The color segments decompose these poor households into three groups. The dark green segment at the base of each bar reveals the percentage of poor households with a disposable or post-fisc income that is equal or greater than their market income. These households on net benefit from or are unaffected by the tax and transfer system, although their disposable income remains below the poverty line.

The dark grey segment reveals the fraction of households with market income already below the poverty line who are pushed further into poverty as a result of income taxation; these already poor households are made worse off as a net result of the tax and transfer system. Finally, the light grey segment captures the fraction of households with market income above the poverty line who are nevertheless pushed into poverty as a net result of the tax and transfer system. The dark and light grey bars represent households that are fiscally impoverished.

There are several patterns to note. First, although the Anglo-liberal countries (Ireland, Canada, Australia, UK and US) have relatively high overall poverty rates, the fraction of households who are fiscally impoverished is relatively low. This is driven in part by the use of generous, often refundable, tax credits as anti-poverty policy in these countries. This stands in stark contrast to the situation in Switzerland, where over a third of households officially in poverty are only poor as a result of income taxation; Switzerland could instantly cut its poverty rate by almost 40 percent by zeroing out the income tax burden on poor households. In the southern European nations of Italy and Greece—which post relatively high overall poverty rates—the majority of poor households are made poorer as a net result of the tax and transfer system. Poor households in these countries calculating their disposable income after wages, transfers and income taxes find that the government policy reduces their disposable income on net.

B. Fiscal Impoverishment by Household Type

As detailed above, fiscal policies are often targeted to different household types. For example, the difference between the effective tax rate paid by couples versus single persons at the same income level of household income varies markedly across countries. Moreover, households with children are often entitled to child benefits that should, on net, substantially reduce their likelihood of being impoverished by the tax and transfer system. To begin examining this, we take the fraction of fiscally impoverished households in each country—the dark and light grey segments in Figure 1 above—and decompose them into one of 6 household types: single person, couple, small family (less than 3 children), large family (3+ children), single parent, or other. Results are presented in Figure 2.¹⁰

[FIGURE 2 ABOUT HERE]

Figure 2: Levels of fiscal impoverishment by household type

First, we see there is substantial cross-national heterogeneity in the composition of fiscally impoverished households. Second, in most countries, the majority of fiscally impoverished households are those without children; as predicted, the presence of children qualifies households for transfer benefits (or tax credits) that reduce their likelihood of fiscal impoverishment. Single householders in particular account for most of those fiscally impoverished in the Nordic countries,

particularly Norway and Estonia. Yet the presence of children is not always a buffer against fiscal impoverishment; indeed, in the southern European countries of Italy, Spain and Greece the majority of fiscally impoverished households contain children. In supplementary analyses, we formally examine how the presence of children in the household impacts fiscal impoverishment across welfare states by estimating a regression model that includes household level covariates and an interaction between the presence of children and the country level fixed effect. Results presented in Appendix Figure A3 reveal the descriptive patterns above are indeed the result of variation in tax and transfer policy and not due to differences in sociodemographic composition.

C. Intensity of Fiscal Impoverishment in Wealthy Democracies

Above we examined cross-national variation in levels of fiscal impoverishment both overall and as a function of household type. Of course, variation in the level of fiscal impoverishment only captures movement above and below the poverty line, a discrete threshold. Depending on the shape of the income distribution, substantively small differences in household income can generate large observable differences in overall household poverty rates. If so, fiscal impoverishment may not be economically meaningfully or politically salient. To examine this, Figure 3 plots the mean intensity of fiscal impoverishment—that is, the degree to which poor households are taxed further into poverty—in each country measured as a fraction of the poverty line. The bars capture the mean intensity across all households whereas the diamond and circle indicators show intensity for households with and without children, respectively.

First, note the substantial variation in the intensity of fiscal impoverishment across the countries in our sample, from just a few percent of the poverty line in Ireland to more than ten percent in Greece and Switzerland. Between these extremes, in a majority of countries the tax and transfer system on net reduces the income of poor households by more than 5%, a non-trivial sum (equal to around \$1,000 in the U.S.). Also note that cross-national variation in the intensity of fiscal impoverishment does not perfectly track with variation in levels; although the fraction of households who are fiscally impoverished is relatively low in the Scandinavian welfare states such as Sweden and Denmark (figure 1), the intensity of fiscal impoverishment among those who are made worse off is relatively high.

Finally, there is also variation in fiscal impoverishment intensity as a function of household composition, specifically the presence of children. In some countries such as Norway and Israel, conditional on being in poverty, the intensity of impoverishment does not vary across household types. By contrast, in many central European countries the intensity of fiscal impoverishment is lower for households with children relative to those without; a pattern that is reversed in countries such as Austria and Australia.

Taken together, the results in Section 1 reveal substantial variation in both the levels and intensity of fiscal impoverishment across wealthy democracies. And moreover, both within and between countries, fiscal impoverishment among households varies markedly depending on the presence of children in the household.

[FIGURE 3 ABOUT HERE]

Figure 3: Mean fiscal impoverishment intensity

Section 2: Policy Determinants of Fiscal Impoverishment

A. *Summary Measures of Fiscal Impoverishment*

What features of national tax and benefit systems account for this observed variation in levels of fiscal impoverishment across countries? Given the often ambiguous distinction between tax and transfer policies, we begin by constructing a summary relative metric of the overall effect of each country's tax and transfer system on fiscal impoverishment. We do so by estimating a linear model by OLS predicting household fiscal impoverishment (binary outcome) as a function of household sociodemographic characteristics and country-fixed effects. We then recover the estimated coefficient on each country-fixed effect set relative to the grand mean of all countries in the sample. This provides a holistic, relative measure of the degree to which each country's tax and transfer system yields fiscal impoverishment, net of household characteristics. We then repeat this process for fiscal intensity (a continuous outcome).

Figure 4, Panel A plots these country-level effects, from lowest (least fiscal impoverishment) to highest (most fiscal impoverishment). The ordering of countries matches what we would expect given the descriptive information in Figure 1: the tax and transfer systems of Switzerland and the southern European nations yield relatively more fiscal impoverishment and the Anglo-liberal countries of Ireland, UK and Canada, yield relatively less. Panel B on the right depicts the corresponding country-level effect on fiscal impoverishment intensity, with coefficients again presented as deviations from the grand mean. The welfare system in all Anglo-liberal countries yields below average intensities of fiscal impoverishment, while Greece and Switzerland are well above the mean, also consistent with the descriptive information detailed above.

[FIGURE 4 ABOUT HERE]

Figure 4: Country Level Effect on Fiscal Impoverishment Levels (Panel A) and Intensity (Panel B)

We can use these country-specific fixed effects as a summary measure of the overall effect of national tax and transfer systems on fiscal impoverishment. Indeed this measure tracks well with measures of overall poverty and inequality: in appendix Figure A4 we show there is a positive relationship between this measure of fiscal impoverishment and the official national poverty rate; fiscal impoverishment is also positively related to disposable income inequality (Figure A5). What accounts for this cross-national variation in fiscal impoverishment?

B. Policy Determinants

Figure 5 shows the median tax rate and median transfer share among households with below median income, expressed as a fraction of market income.¹¹ As a reminder, households with unemployment or pension income are excluded from this synthetic measure.

Across countries, we see tax rates generally exceed transfer levels expressed as a share of market income. Notably, in Spain and Italy the median transfer share is actually zero in the lower half of the income distribution; these countries provide hardly any positive income transfers to low-income households beyond unemployment assistance and pension entitlements. In line with

previous research, Anglo-liberal countries have relatively low income taxes while Nordic and Continental welfare states have relatively high income tax levels.

By comparing tax rates and transfer shares we see how these disparate components of welfare state policy aggregate to produce the cross-national patterns of fiscal impoverishment detailed above. For instance, Canada, Ireland and the United Kingdom combine low taxes on low-income households with high transfers which explains the remarkably low levels and intensities of fiscal impoverishment in those countries.

[FIGURE 5 ABOUT HERE]

Figure 5: Median share of taxes and transfers in the lower half of the income distribution

Note: Sample excludes pensioners or unemployment benefits recipients.

To investigate which features of tax and transfer systems are implicated in the production of fiscal impoverishment, we plot the estimated coefficients for each country against our measures of median tax rate and median transfer income share for households with income below the median.

Figure 6 plots the country-specific coefficient on fiscal impoverishment levels against the median tax rate (A) and the median transfer share (B). On the left we see that the average tax rate is not associated with fiscal impoverishment: whether the tax burden on low-income households is higher is not tightly correlated with the overall likelihood of fiscal impoverishment. On the right we see an inverse relationship for transfers and fiscal impoverishment; in countries where households derive a greater share of household income from government transfers, the threat of fiscal impoverishment is relatively lower. A different story emerges when examining the policy drivers of fiscal impoverishment intensity in Figure 7. Here taxes are clearly and positively associated with fiscal impoverishment while transfers are not.

[FIGURE 6 ABOUT HERE]

Figure 6: The association between average tax rate (Panel A) vs. average transfer share (Panel B) and levels of fiscal impoverishment

[FIGURE 7 ABOUT HERE]

Figure 7: The association between average tax rate (Panel A) vs. average transfer share (Panel B) and intensity of fiscal impoverishment

Yet on both dimensions the relative role of taxes and transfers in the production of fiscal impoverishment varies markedly across countries. For example, the level of fiscal impoverishment is high in Spain and Italy not because these countries tax the poor more but because they provide less in the way of transfer income. By contrast, the high degree of fiscal impoverishment in Greece and Switzerland is primarily driven by above average taxes on the poor. At the same time, the relatively low level of fiscal impoverishment in Sweden and Denmark results from coupling high tax burdens with even higher transfers. By contrast, fiscal impoverishment is low in the U.S. and other Anglo-liberal regimes due to lower tax burdens, driven largely by the use of tax credits as an anti-poverty tool in those countries.

Holistically comparing such complex and varied tax and transfer systems is always a fraught endeavor. Nevertheless, this analysis reveals that fiscal impoverishment is jointly determined by taxes and transfers and that both aspects of government policy are materially important.

Section 3: Counterfactual Simulations

What would poverty and fiscal impoverishment look like if countries had different tax and transfer systems? We explore this question by drawing on the measures of median tax rate and transfer share estimated above to conduct counterfactual simulations. Following the literature, we simulate counterfactuals of household poverty and fiscal impoverishment by contrasting the tax and transfer policies of the Anglo-liberal welfare states with their Nordic counterparts.

Figure 8 shows the change in household poverty rates if all countries had the corresponding counterfactual taxes (panel A) or transfers (panel B). Panel B tells a familiar story: rates of household poverty would generally be higher in the presence of Anglo-liberal level income transfers and household poverty would generally be lower in the presence of Nordic level income transfers. At the same time, Panel A shows that swapping tax systems yields the opposite pattern:

poverty would generally be lower in the presence of Anglo-liberal tax systems but would generally be higher in the presence of Nordic style taxes. Notably, we find that every Nordic country would achieve substantial reductions in household poverty if they adopted the Anglo-liberal average income tax policy; a novel finding that underscores the value add of the fiscal impoverishment framework for comparative poverty research.

Other patterns of note: the United States would have lower household poverty with either Nordic or Anglo-Liberal average transfers, underscoring that income transfers in the U.S. lag their English-speaking peers; Switzerland would have less poverty with either Anglo-liberal or Nordic taxes, which speaks to the high level of income taxation on poor households in that country; at the same time, Italy, Greece, and Spain would all see a reduction in poverty with either Nordic or Anglo-liberal average transfers.

[FIGURE 8 ABOUT HERE]

Figure 8: Counterfactual poverty rates

Taken together, these counterfactuals reveal that both taxes and transfers are implicated in the production of household poverty. In the appendix, we show the same is true for fiscal impoverishment, which would generally be higher in the presence of Nordic level taxes OR Anglo-liberal level transfers and would generally be lower in the presence of Nordic level transfers OR Anglo-liberal level taxes (see Appendix Figure A7).

As a final counterfactual, we consider the impact on household poverty if all countries adopted a policy of no income taxation on the poor. Here again we limit our simulation to households not receiving pension and unemployment assistance. Figure 9 reveals that zeroing out the income tax burden on poor households would reduce rates of household poverty in every country, with the largest absolute declines in Denmark, Switzerland and Greece and the largest relative declines in Germany, Greece, Norway and Switzerland. These countries could cut poverty rates in half by eliminating taxes on the poor.

Yet perhaps even more significant than shifting some families above the poverty line, eliminating income taxes on poor households would end fiscal impoverishment—and ensure that no poor family finds they are made materially worse off as a net result of their government’s tax and transfer system.

In sum, every rich democracy creates household poverty by taxing the income of the poor; policymakers and welfare state scholars must recognize—as low-income households already do—that moneys received from the state and moneys paid to the state jointly determine household disposable income and economic well-being.

[FIGURE 9 ABOUT HERE]

Figure 9: Change in household poverty rates in the absence of income taxes on the poor

DISCUSSION & CONCLUSION

Variation in household poverty across wealthy democracies is not primarily the result of different economic conditions or demographic composition but instead the result of politics and policy choices (Brady 2009). Although much of welfare state scholarship is focused on how poverty can be mitigated by governments giving more—via more generous income transfers or higher quality social insurance schemas or public goods—our findings reveal governments can also combat poverty by simply taking less. In every wealthy democracy analyzed, we found a considerable share of households below the poverty line would not be so in the absence of income taxation. Moreover, we also found that in every country, a sizeable fraction of already poor households are pushed further into poverty as a net result of the tax and transfer system. This fiscal impoverishment is jointly determined by the level of taxation paid by and the level of transfer income received by poor households—both aspects of welfare state policy are implicated in the production of household poverty.

Our findings are resonant with the existing literature on comparative welfare states and household poverty while adding important nuance and novel insights. For example, although Anglo-liberal regimes tend to have higher overall levels of poverty, national tax and transfer systems actually

yield less fiscal impoverishment in these countries than in many of the more egalitarian and highly redistributive welfare states of continental Europe. Household composition also has a differential impact on the threat of fiscal impoverishment across countries: in the more individualistic Scandinavian countries, childless households account for the vast majority of the impoverished whereas in the familialistic Mediterranean welfare states it is households with children who are more likely to be fiscally impoverished. Fiscal impoverishment, therefore, adds key information on welfare state performance that is different from and serves as a complement to traditional measures such as overall household poverty or the level of income inequality.

This study contributes to several related sub-fields of sociological research. Centering the hidden role of income taxation in the production of household poverty highlights a potentially generative area of overlap between welfare state research and the New Fiscal Sociology (Martin, Prasad, and Mehrotra 2009). As we have shown, although taxes have been incorporated in the sociological examination of poverty, focusing on the ‘net effect’ of taxes and transfers obscured the role of taxation in exacerbating poverty (Jurow Kleiman 2021). This underscores the need for researchers to consider tax levels over and above their interest in tax progressivity. Attending closely to what households pay in income taxes is essential for capturing the full scope of government policies and programs that impact attitudes towards welfare state policy.

This paper motivates several avenues for future research. First, examining the levels and intensity of fiscal impoverishment over time can reveal the impact of specific tax and transfer policies adopted. For instance, we would expect to see fiscal impoverishment in the U.S. decline substantially starting in the 1980s given the expansion of tax credits including the EITC and CTC. Second, researchers should examine how the threat of fiscal impoverishment varies over the life course and across different subpopulations. Examining the demographic and socio-economic characteristics of fiscal impoverishment may yield new insights into the drivers of inequality—e.g., across racial groups or for single-parent households—or shed novel insights into patterns of political participation across groups. Moreover, fiscal impoverishment may prove useful for understanding cross national differences in wealth accumulation and trajectories over the life course (Pfeffer and Waitkus 2021).

This comparative study is only possible thanks to the availability of harmonized household survey data made available through the LIS. One disadvantage of these data, however, is the lack of detailed information on the specifics of national tax systems. For instance, we cannot distinguish between income taxes and employee side payroll taxes—e.g., social security contributions—across all countries of the study. Policymakers and the public, however, may feel differently about fiscal impoverishment that results from general income taxation versus from payroll taxes that are used to finance social insurance benefits or entitlements. We also have no comparable cross-national measure of indirect taxes, which also reduces income and impacts economic behavior, even if these taxes are less salient. More generally, our findings add still greater motivation to improve data on household taxation; the more insight we have into the relative role of taxes, transfers and market income in shaping disposable income the better.

As our study demonstrates, fiscal impoverishment provides a novel conceptual and empirical framework for examining the policy determinants of cross-national variation in household poverty. For low-income families, the net impact of national tax and transfer systems on the household pocketbook is salient and relevant—so, too, should it be for policymakers, policy analysts and scholars of the welfare state.

NOTES

¹ In the U.S., the supplemental poverty measure (SPM) was created to more accurately measure household material circumstances in part by including income tax liabilities and income tax credits including the EITC; what income should be counted and how best to estimate from household survey data is currently an active and contested site of research, particularly in recovering estimates of ‘extreme’ poverty (Brady and Parolin 2020; Sullivan 2020).

² Our estimates of fiscal impoverishment might therefore be considered conservative, i.e., a fulsome accounting of all taxes and fees paid to the state would reveal many more households to be fiscally impoverished after taxes and transfers.

³ A vast interdisciplinary literature details how ‘hidden taxes’ are often ignored by households. Witness, for example, the frequent concern over whether VATs make it too easy for politicians to raise revenue because it is not as salient to consumers (Afonso 2014; Lohmann and Weiss 2002). Moreover, experimental evidence finds that individuals reduce their labor supply substantially more in response to a tax on wages compared to an economically equivalent tax on consumption, despite standard economic theory asserting a linear wage tax and comprehensive consumption tax to be economically equivalent (see, e.g., Blumkin, Ruffle, and Ganun 2012).

⁴ All countries in our sample provide gross and net income information. Most of the underlying surveys collect gross income, before income and payroll taxes. In these cases, the national data provider simulated taxes and contributions (from gross to net microsimulation) in order to get detailed information on taxes and disposable income. In Greece and Italy, income information is collected net of income and payroll taxes. Here, the national data provider simulated taxes and contributions based on net incomes (from net to gross microsimulation). Hence, all datasets provide comparable information on income and payroll taxes as well as gross and net income.

⁵ Information on income, taxes and transfers is top and bottom coded at the 0.1 and 99.9% percentile.

⁶ Note that the ranking of countries by level of fiscal impoverishment is similar if we exclude unemployment and transfer income, although of course the overall levels are higher.

⁷ See Table A1 in the appendix for descriptive statistics of the main variables.

⁸ Note that this provides rather conservative estimates of poverty and impoverishment because some households with extreme reliance on transfer income will push up the average transfer share in their income and household type bracket.

⁹ Patterns are substantively similar if using 50% of national median income as poverty threshold; see Figure A1 in the appendix.

¹⁰ Patterns are substantively different if decomposing the alleviated poor instead; see Figure A2 in the appendix.

¹¹ See Figure A6 for a similar graph indicating median tax and transfer shares for those around the poverty line (between 50 and 70% of median income).

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FIGURES

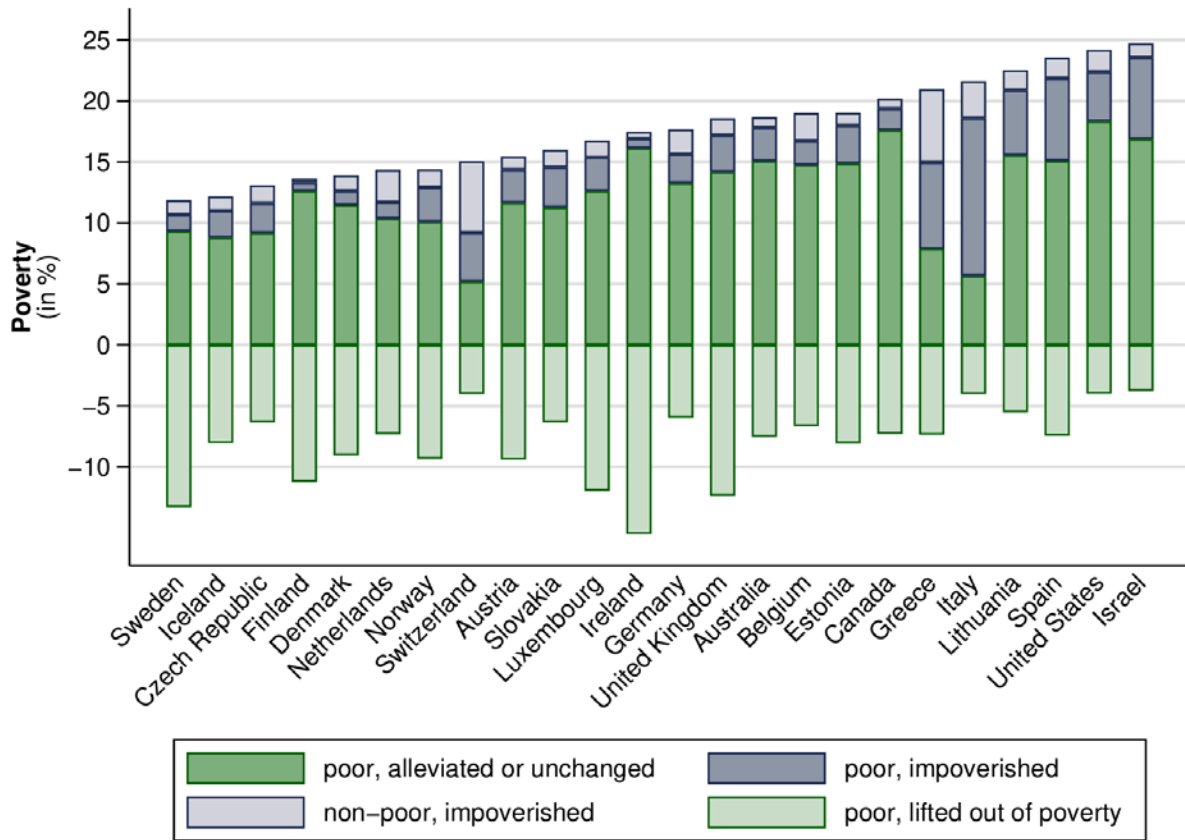


Figure 1: Poverty and levels of fiscal impoverishment

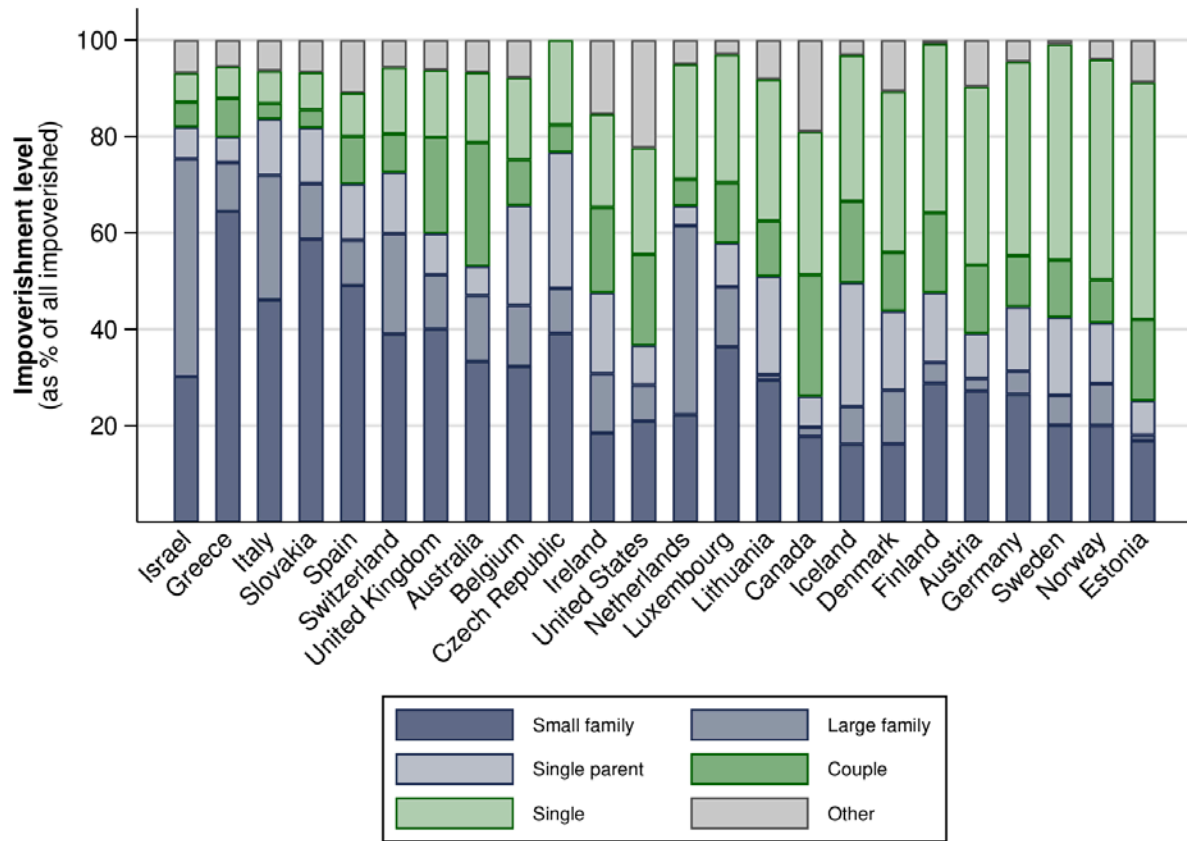


Figure 2: Levels of fiscal impoverishment by household type

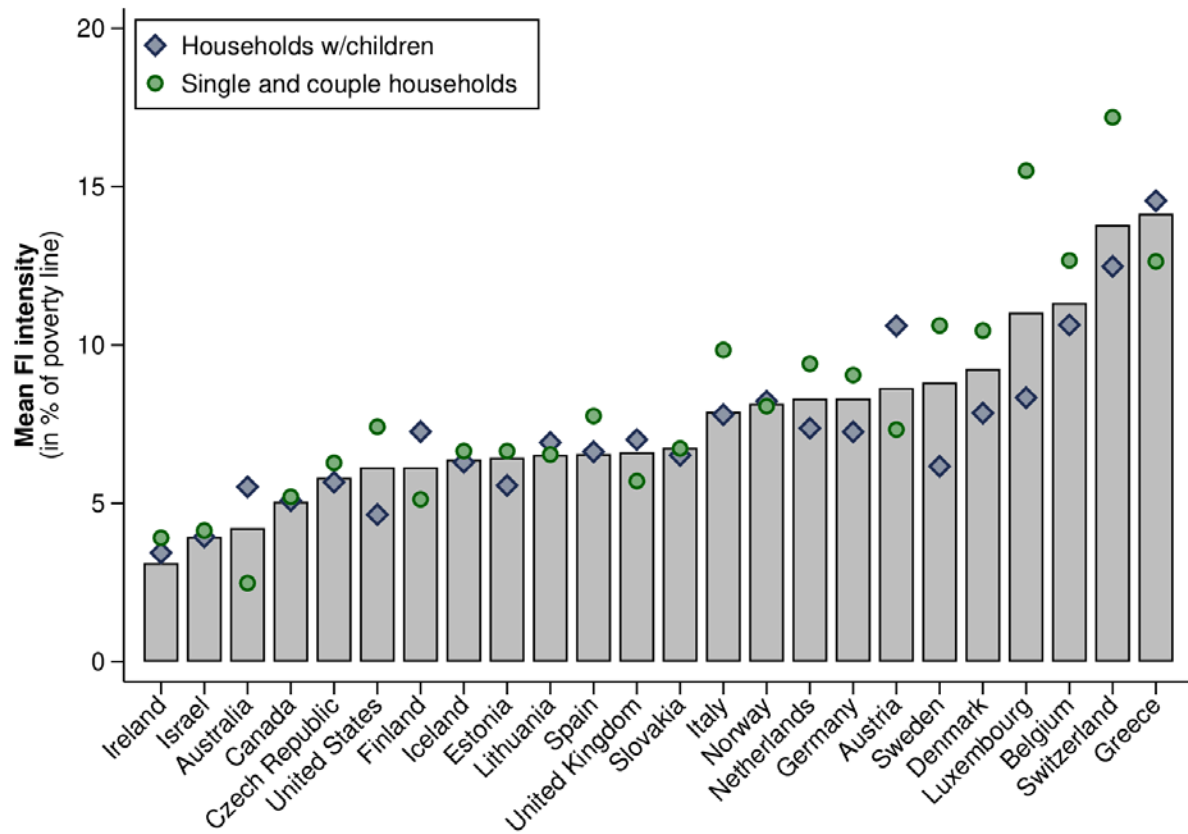


Figure 3: Mean fiscal impoverishment intensity

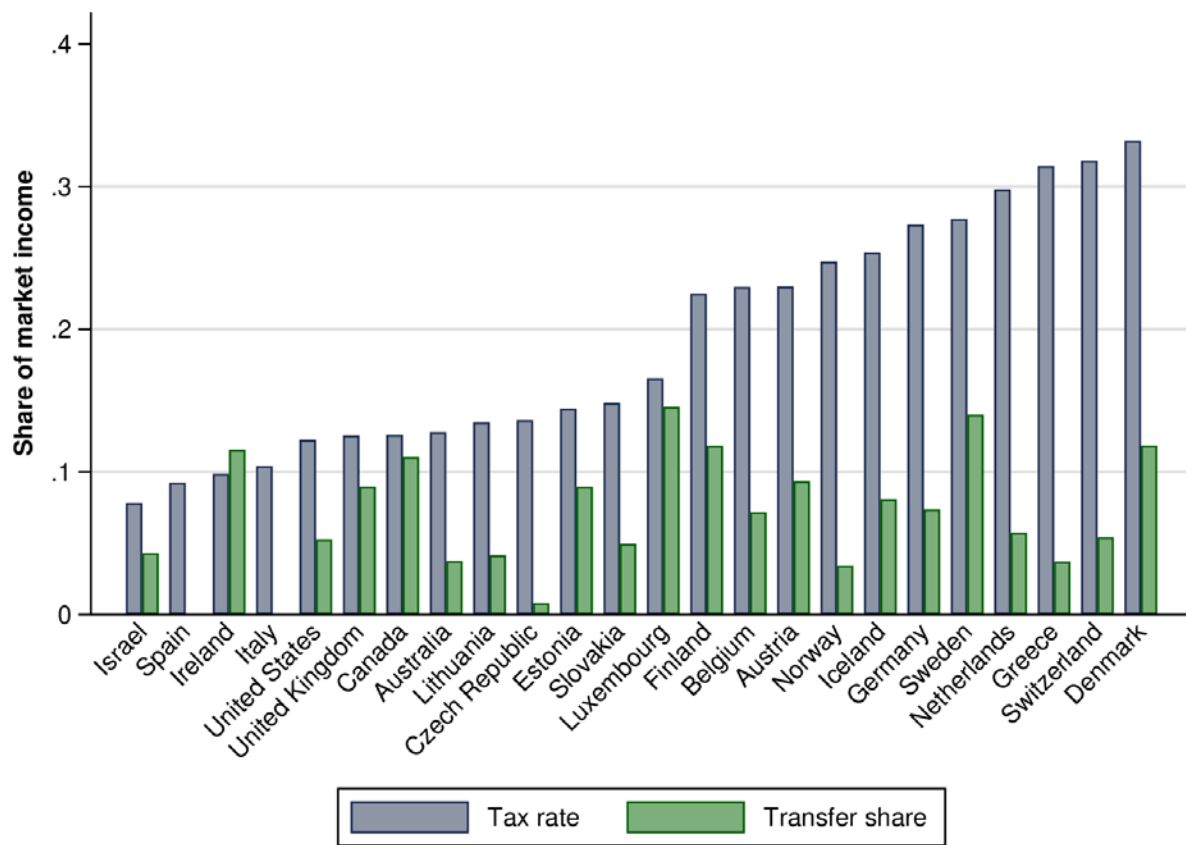


Figure 5: Median share of taxes and transfers in the lower half of the income distribution

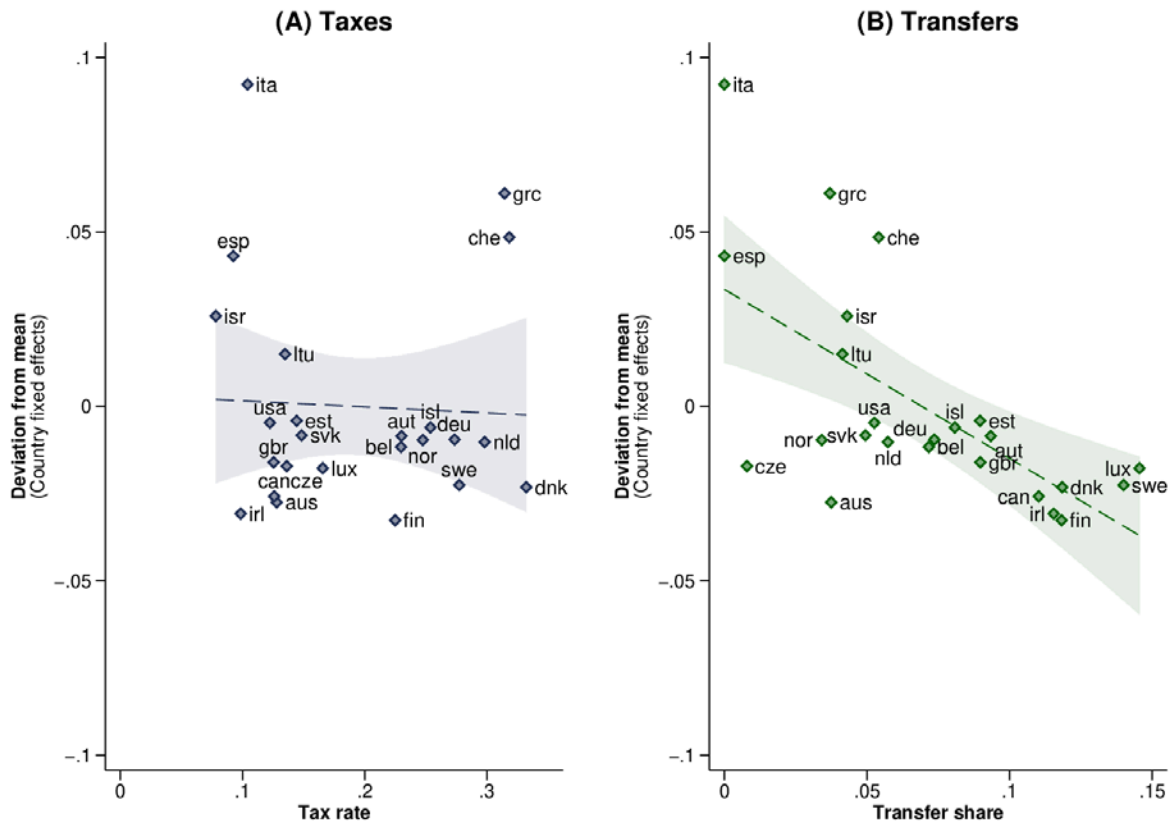


Figure 6: The association between average tax rate (Panel A) vs. average transfer share (Panel B) and levels of fiscal impoverishment

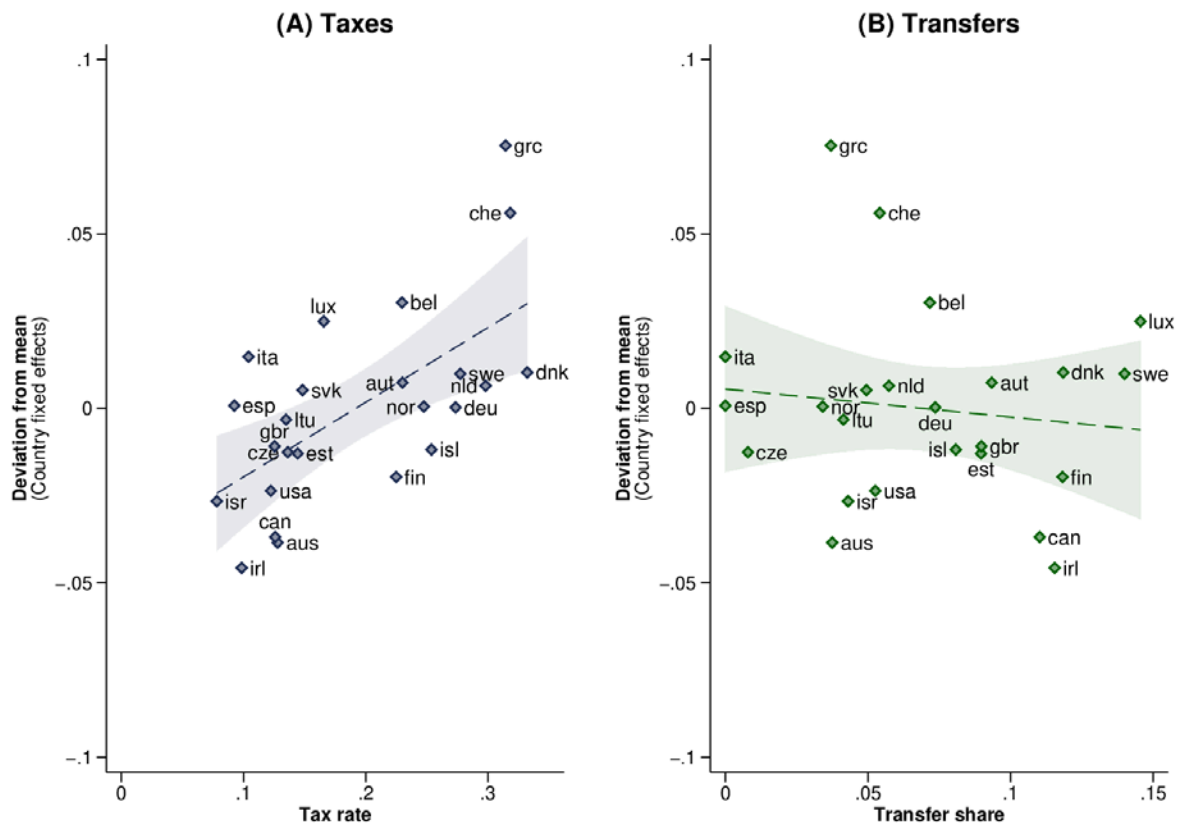


Figure 7: The association between average tax rate (Panel A) vs. average transfer share (Panel B) and intensity of fiscal impoverishment

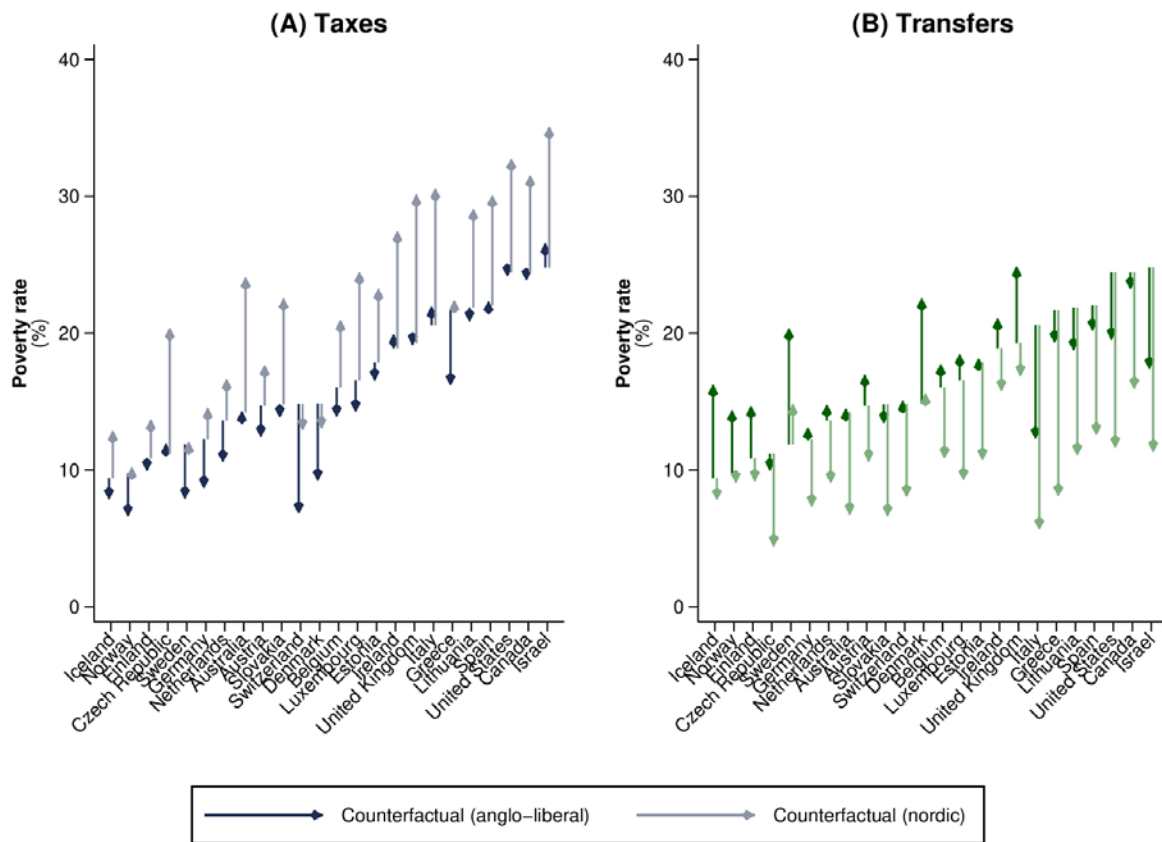


Figure 8: Counterfactual poverty rates

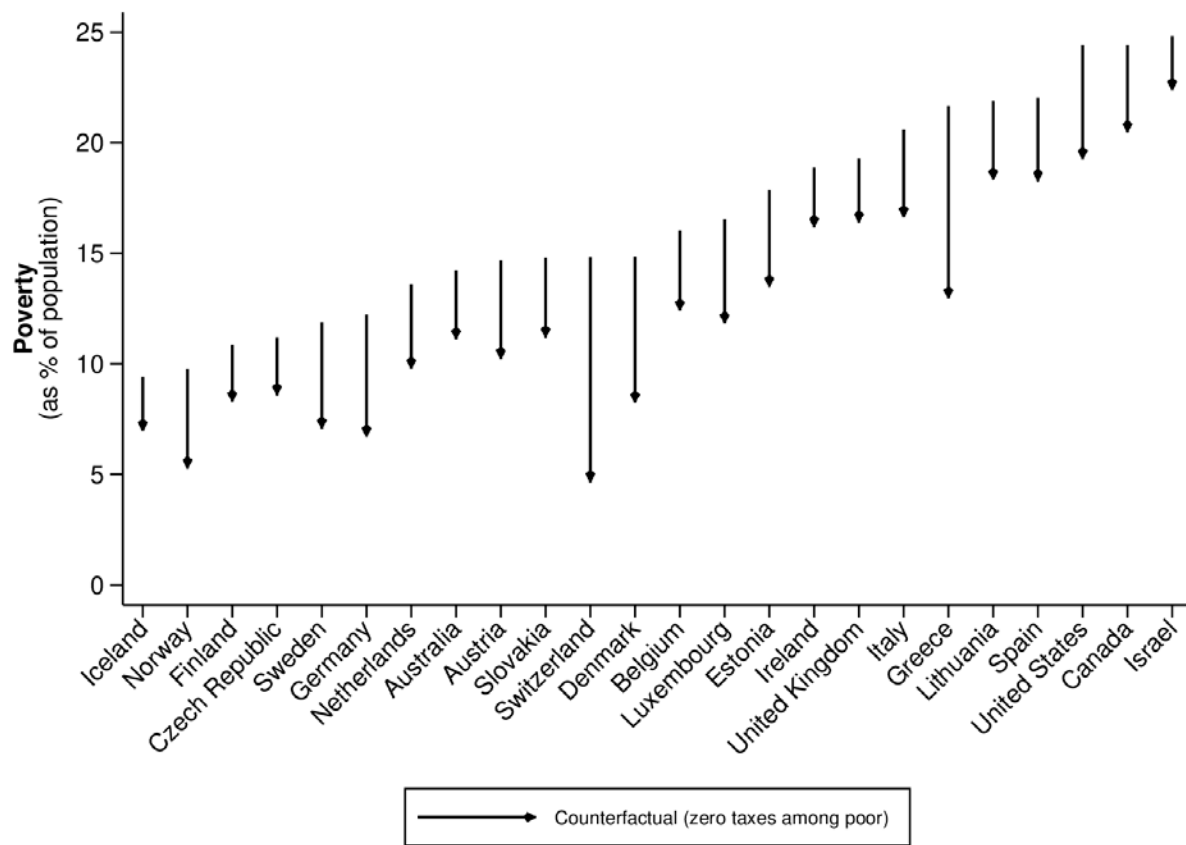


Figure 9: Change in household poverty rates in the absence of income taxes on the poor